PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of	Docket No: Q87983
Jean BEGUINOT, et al.	
Appln. No.: 10/535,174	Group Art Unit: 1793
Confirmation No.: 2367	Examiner: Jie YANG
Filed: March 17, 2006	

For: WELDABLE COMPONENT OF STRUCTURAL STEEL AND METHOD OF MANUFACTURE

REPLY BRIEF PURSUANT TO 37 C.F.R. § 41.41

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.41, Appellant respectfully submits this Reply Brief in response to the Examiner's Answer dated February 1, 2010. Entry of this Reply Brief is respectfully requested.

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STATUS OF CLAIMS

Claims 1-11 are pending in the application.

Claims 6-11 are withdrawn from consideration.

Claims 1-5 are rejected.

This is an appeal from the Examiner's rejections of claims 1-5 under 35 U.S.C. § 103(a).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

An issue on appeal is whether the Examiner improperly rejected claims 1-5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Vander Voort (US 4,171,233) or Bhadeshia (WO 96/22396).

ARGUMENT

In response to the Examiner's Answer mailed February 1, 2010, Appellants maintain that the rejection of claims 1-5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Vander Voort (US 4,171,233) or Bhadeshia (WO 96/22396) should be reversed because the cited reference fails to teach or suggest the claimed invention for the reasons of record and the reasons set forth in the Appeal Brief filed November 30, 2009, which is incorporated herein by reference, and further in view of the following.

It is submitted that the Examiner's Answer contains errors regarding the disclosure of Vander Voort and Bhadeshia as set forth below. Appellants respectfully request that a corrected Examiner's Answer be provided.

Regarding Vander Voort, a N content of 0.8 to 1.35% is set forth in the Table on page 4 of the Examiner's Answer. However, it is submitted that Vander Voort does not disclose a N content. In fact, it is impossible to have 0.8-1.35% N in the steel of Vander Voort because the limit of solubility of N is less than 0.03%. In addition, Vander Voort discloses a Mn range of 0 to 3%, not 0 to 2%. *See e.g.,* Abstract. Furthermore, Ti is only present in the steel if B is present. *See* col. 4, line 15.

Regarding Bhadeshia, it also does not disclose the presence of N. However, in the Table on page 6 of the Examiner's Answer, the Examiner indicates that there is an overlap of 0.9 to 1.35% N between Bhadeshia and claim 1.

In addition, it is submitted that there a main feature of the present invention is the synergy between boron and silicon. *See e.g.,* page 4, lines 19-24 of the present specification.

However, on page 8 of the Examiner's Answer, the Examiner asserts that:

> The Examiner notes that the Appellant does not provide any evidence to prove the criticality of boron plus a high content of silicon as claimed for the argued unexpected weldability result.

Appellants respectfully disagree.

It is submit that the Examples of the present specification clearly show the synergistic effect of boron and silicon at pages 8-9. It is well known in the art that the lower the Ceq, the better the weldability, and that the lower the quenchability, the higher the maximum thickness for which it is possible to have martensitic structure (i.e., high mechanical characteristic).

In the specification, Examples 1 and A have about the same Ceq (i.e., they have about the same weldability), but the critical martensitic velocity of Example 1 is much lower than the critical martensitic velocity of Example A. Thus, Example 1 is easier to quench than Example A. In addition, the maximum thickness up to which it is possible to have martensitic structure is higher with Example 1 than with Example A. When the chemical compositions of Example 1 and A are compared, Example 1 contains 0.870% Si and 0.002% B whereas Example A contains only 0.315% Si and 0.003% B. Thus, it is submitted that the results of Examples 1 and A demonstrate the synergistic effect of silicon and boron in the claimed invention.

Further, similar results are seen from a comparison of Example 2 and B.

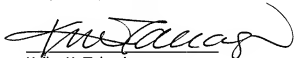
It is submitted that a synergistic effects of the combination of silicon and boron are unexpected from the disclosure of Vander Voort or Bhadeshia.

For the reasons of record, the reasons set forth in the Appeal Brief, and the foregoing reasons, Appellants respectfully submit that the obviousness rejection should be reversed.

CONCLUSION

For the above reasons as well as the reasons set forth in Appeal Brief, Appellant respectfully requests that the Board reverse the Examiner's rejections of all claims on Appeal. An early and favorable decision on the merits of this Appeal is respectfully requested.

Respectfully submitted,



Keiko K. Takagi
Registration No. 47,121

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

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